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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/380,704	06/06/00	BUSH	A 0609.4350001

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EXAMINER	
BUNNER, B	
ART UNIT	PAPER NUMBER
1647	14

DATE MAILED: 05/21/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/380,704	BUSH ET AL.	
	Examiner	Art Unit	
	Bridget E. Bunner	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 February 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-94* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claims *1-94* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.

Group 1, claim(s) 1-2, 37-38, and 53, drawn to (a) a composition for the treatment of conditions caused by amyloidosis comprising a metal chelator and a second compound and (b) a method of treating amyloidosis comprising administering to a subject a metal chelator and a second compound, wherein the chelator reduces or inhibits Aβ-mediated production of radical oxygen species.

Group 2, claim(s) 3-7, drawn to a method of treating amyloidosis comprising administering to a subject a metal chelator, a magnesium salt supplement, and a third compound, wherein the chelator reduces or inhibits Aβ-mediated production of radical oxygen species.

Group 3, claim(s) 8-12, drawn to a method of treating amyloidosis comprising administering to a subject a salt of a metal chelator and a second compound, wherein the salt of a metal chelator reduces or inhibits Aβ-mediated production of radical oxygen species.

Group 4, claim(s) 13-15, drawn to a method of treating amyloidosis comprising administering to a subject a chelator specific for copper wherein the chelator reduces or inhibits Aβ-mediated production of radical oxygen species.

Group 5, claim(s) 16-18, drawn to a method of treating amyloidosis in a subject comprising administering to a subject an alkalinizing agent wherein the alkalinizing agent reduces or inhibits Aβ-mediated production of radical oxygen species.

Group 6, claim(s) 19-20, in part, drawn to a method of treating amyloidosis in a subject comprising administering a metal chelator and a second compound wherein the chelator prevents formation of Aβ amyloid.

Group 7, claim(s) 19-20, in part, drawn to a method of treating amyloidosis in a subject comprising administering a metal chelator and a second compound wherein the chelator promotes or induces resolubilization of Aβ deposits.

Group 8, claim(s) 19-20, in part, drawn to a method of treating amyloidosis in a subject comprising administering a metal chelator and a second compound wherein the chelator prevents formation of Aβ amyloid and promotes or induces resolubilization of Aβ deposits.

Group 9, claim(s) 21-25, in part, drawn to a method of treating amyloidosis in a subject comprising administering a metal chelator, a magnesium salt supplement, and a third compound, wherein the combination prevents formation of Aβ amyloid.

Group 10, claim(s) 21-25, in part, drawn to a method of treating amyloidosis in a subject comprising administering a metal chelator, a magnesium salt supplement, and a third compound, wherein the combination promotes or induces resolubilization of Aβ deposits.

Group 11, claim(s) 21-25, in part, drawn to method of treating amyloidosis in a subject comprising administering a metal chelator, a magnesium salt supplement, and a third compound, wherein the combination prevents formation of Aβ amyloid and promotes or induces resolubilization of Aβ deposits.

Group 12, claim(s) 26-30, in part, drawn to a method of treating amyloidosis in a subject comprising administering a salt of metal chelator and a second compound wherein the salt of a metal chelator prevents formation of Aβ amyloid.

Group 13, claim(s) 26-30, in part, drawn to a method of treating amyloidosis in a subject comprising administering a salt of metal chelator and a second compound wherein the salt of a metal chelator promotes or induces resolubilization of Aβ deposits.

Group 14, claim(s) 26-30, in part, drawn to a method of treating amyloidosis in a subject comprising administering a salt of metal chelator and a second compound wherein the salt of a metal chelator prevents formation of Aβ amyloid and promotes or induces resolubilization of Aβ deposits.

Group 15, claim(s) 31-33, in part, drawn to a method of treating amyloidosis in a subject comprising administering a chelator specific for copper wherein the chelator prevents formation of Aβ amyloid.

Group 16, claim(s) 31-33, in part, drawn to a method of treating amyloidosis in a subject comprising administering a chelator specific for copper wherein the chelator promotes or induces resolubilization of Aβ deposits.

Group 17, claim(s) 31-33, in part, drawn to a method of treating amyloidosis in a subject comprising administering a chelator specific for copper wherein the chelator prevents formation of Aβ amyloid and promotes or induces resolubilization of Aβ deposits.

Group 18, claim(s) 34-36, in part, drawn to a method of treating amyloidosis in a subject comprising administering an alkalinizing agent wherein the alkalinizing agent prevents formation of Aβ amyloid.

Group 19, claim(s) 34-36, in part, drawn to a method of treating amyloidosis in a subject comprising administering an alkalinizing agent wherein the alkalinizing agent promotes or induces resolubilization of Aβ deposits.

Group 20, claim(s) 34-36, in part, drawn to a method of treating amyloidosis in a subject comprising administering an alkalinizing agent wherein the alkalinizing agent prevents formation of Aβ amyloid and promotes or induces resolubilization of Aβ deposits.

Group 21, claim(s) 39-42 and 54-57, drawn to a composition for the treatment of conditions caused by amyloidosis comprising a metal chelator and a magnesium salt supplement.

Group 22, claim(s) 43-46, drawn to a composition for the treatment of conditions caused by amyloidosis comprising a salt of a metal chelator.

Group 23, claim(s) 47-49, drawn to a composition for the treatment of conditions caused by amyloidosis comprising a chelator specific for copper.

Group 24, claim(s) 50-52, drawn to a composition for the treatment of conditions caused by amyloidosis comprising an alkalinizing agent.

Group 25, claim(s) 58, drawn to a method for determining which metal chelators used in the treatment of amyloidosis should be supplemented with ammonium, calcium, magnesium, or sodium salts.

Group 26, claim(s) 59-65, drawn to a method for the identification of an agent to be used in the treatment of Alzheimer's disease wherein the agent is capable of altering the production of Cu(I) by Aβ.

Group 27, claim(s) 66-72, drawn to a method for the identification of an agent to be used in the treatment of Alzheimer's disease wherein the agent is capable of altering the production of Fe(II) by Aβ.

Group 28, claim(s) 73-78, drawn to a method for the identification of an agent to be used in the treatment of Alzheimer's disease wherein the agent is capable of altering the production of H_2O_2 by Aβ.

Group 29, claim(s) 79-80, drawn to a method for the identification of an agent to be used in the treatment of Alzheimer's disease wherein the agent is capable of interfering with the interaction of O_2 and Aβ to produce O_2 without interfering with the SOD-like activity of Aβ.

Group 30, claim(s) 81-86, drawn to a method for the identification of an agent to be used in the treatment of Alzheimer's disease wherein the agent is capable of reducing the toxicity of Aβ.

Group 31, claim(s) 87-88, drawn to a kit for determining whether an agent is capable of altering the production of Cu(I) by Aβ wherein the first container contains a Aβ peptide, a second container contains a Cu(II) salt and a third container contains BC anion.

Group 32, claim(s) 89-90, drawn to a kit for determining whether an agent is capable of altering the production of Fe(II) by Aβ wherein the first container contains a Aβ peptide, a second container contains an Fe(III) salt and a third container contains BP anion.

Group 33, claim(s) 91-92, drawn to a kit for determining whether an agent is capable of altering the production of H_2O_2 by Aβ wherein the first container contains a Aβ peptide, a second container contains a Cu(II) salt, a third container contains TCEP, and a fourth container contains DTNB.

Group 34, claim(s) 93-94, drawn to a method for the identification of an agent to be used in the treatment of Alzheimer's disease wherein the agent is capable of inhibiting redox-reactive metal-mediated crosslinking of Aβ.

2. The inventions listed as Groups 1-34 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Group 1 recites the technical feature of a composition comprising a metal chelator and a second compound and administration of that composition to a subject wherein the chelator reduces or inhibits Aβ-mediated production of radical oxygen species, which is not required by the other methods of Groups 2-20, 26-31, and 35.

Group 2 recites the technical feature of administration of a metal chelator, a magnesium salt supplement, and a third compound to a subject wherein the chelator reduces or inhibits Aβ-mediated production of radical oxygen species, which is not required by the other methods of Groups 1, 3-20, 25-30, and 34.

Group 3 recites the technical feature of administration of a salt of a metal chelator and a second compound to a subject wherein the salt of a metal chelator reduces or inhibits Aβ-mediated production of radical oxygen species, which is not required by the other methods of Groups 1-2, 4-20, 25-30, and 34.

Group 4 recites the technical feature of administration of a copper chelator wherein the chelator reduces or inhibits Aβ-mediated production of radical oxygen species, which is not required by the other methods of Groups 1-3, 5-20, 25-30, and 34.

Group 5 recites the technical feature of administration of an alkalinizing agent to a subject wherein the alkalinizing agent reduces or inhibits Aβ-mediated production of radical oxygen species, which is not required by the other methods of Groups 1-4, 6-20, 25-30, and 34.

Group 6 recites the technical feature of administration of a metal chelator and a second compound to a subject wherein the chelator prevents formation of Aβ amyloid, which is not required by the other methods of Groups 1-5, 7-20, 25-30, and 34.

Group 7 recites the technical feature of administration of a metal chelator and a second compound to a subject wherein the chelator promotes or induces resolubilization of Aβ deposits, which is not required by the other methods of Groups 1-6, 8-20, 25-30, and 34.

Group 8 recites the technical feature of administration of a metal chelator and a second compound to a subject wherein the chelator prevents formation of Aβ amyloid and promotes or induces resolubilization of Aβ deposits, which is not required by the other methods of Groups 1-7, 9-20, 25-30, and 34.

Group 9 recites the technical feature of administration of a metal chelator, a magnesium salt supplement, and a third compound to a subject wherein the combination prevents formation of Aβ amyloid, which is not required by the other methods of Groups 1-8, 10-20, 25-30, and 34.

Group 10 recites the technical feature of administration of a metal chelator, a magnesium salt supplement, and a third compound to a subject wherein the combination promotes or induces resolubilization of Aβ deposits, which is not required by the other methods of Groups 1-9, 11-20, 25-30, and 34.

Group 11 recites the technical feature of administration of a metal chelator, a magnesium salt supplement, and a third compound to a subject wherein the combination prevents formation of Aβ amyloid and promotes or induces resolubilization of Aβ deposits, which is not required by the other methods of Groups 1-10, 12-20, 25-30, and 34.

Group 12 recites the technical feature of administration of a salt of a metal chelator and a second compound to a subject wherein the salt of a metal chelator prevents formation of Aβ amyloid, which is not required by the other methods of Groups 1-11, 13-20, 25-30, and 34.

Group 13 recites the technical feature of administration of a salt of a metal chelator and a second compound to a subject wherein the salt of a metal chelator promotes or induces resolubilization of Aβ deposits, which is not required by the other methods of Groups 1-12, 14-20, 25-30, and 34.

Group 14 recites the technical feature of administration of a salt of a metal chelator and a second compound to a subject wherein the salt of a metal chelator prevents formation of Aβ amyloid and promotes or induces resolubilization of Aβ deposits, which is not required by the other methods of Groups 1-13, 15-20, 25-30, and 34.

Group 15 recites the technical feature of administration of a copper chelator wherein the chelator prevents formation of Aβ amyloid, which is not required by the other methods of Groups 1-14, 16-20, 25-30, and 34.

Group 16 recites the technical feature of administration of a copper chelator wherein the chelator promotes or induces resolubilization of Aβ deposits, which is not required by the other methods of Groups 1-15, 17-20, 25-30, and 34.

Group 17 recites the technical feature of administration of a copper chelator wherein the chelator prevents formation of Aβ amyloid and promotes or induces resolubilization of Aβ deposits, which is not required by the other methods of Groups 1-16, 18-20, 25-30, and 34.

Group 18 recites the technical feature of administration of an alkalinizing agent to a subject wherein the alkalinizing agent prevents formation of Aβ amyloid, which is not required by the other methods of Groups 1-17, 19-20, 25-30, and 34.

Group 19 recites the technical feature of administration of an alkalinizing agent to a subject wherein the alkalinizing agent and promotes or induces resolubilization of Aβ deposits, which is not required by the other methods of Groups 1-18, 20, 25-30, and 34.

Group 20 recites the technical feature of administration of an alkalinizing agent to a subject wherein the alkalinizing agent and prevents formation of Aβ amyloid and promotes or induces resolubilization of Aβ deposits, which is not required by the other methods of Groups 1-19, 25-30, and 34.

Group 21 recites the technical feature of a composition comprising a metal chelator and a magnesium salt supplement, which is not required by the other products of Groups 22-24 and 31-33.

Group 22 recites the technical feature of a composition comprising a salt of a metal chelator, which is not required by the other products of Groups 21, 23-24, and 31-33.

Group 23 recites the technical feature of a composition comprising a copper chelator, which is not required by the other products of Groups 21-22, 24, and 31-33.

Group 24 recites the technical feature of a composition comprising an alkalinizing agent, which is not required by the other products of Groups 21-23 and 31-33.

Group 25 recites the technical feature of determination of which metal chelators should be supplemented with ammonium, calcium, magnesium, or sodium salts, which is not required by the other methods of Groups 1-20, 26-30, and 34.

Group 26 recites the technical feature of identification of an agent wherein the agent alters the production of Cu(I) by Aβ, which is not required by the other methods of Groups 1-20, 25, 27-30, and 34.

Group 27 recites the technical feature of identification of an agent wherein the agent alters the production of Fe(II) by Aβ, which is not required by the other methods of Groups 1-20, 25-26, 28-30, and 34.

Group 28 recites the technical feature of identification of an agent wherein the agent alters the production of H_2O_2 by Aβ, which is not required by the other methods of Groups 1-20, 25-27, 29-30, and 34.

Group 29 recites the technical feature of identification of an agent wherein the agent interferes with the interaction of O_2 and Aβ to produce O_2, which is not required by the other methods of Groups 1-20, 25-28, 30, and 34.

Group 30 recites the technical feature of identification of an agent wherein the agent reduces the toxicity of Aβ, which is not required by the other methods of Groups 1-20, 25-29, and 34.

Group 31 recites the technical feature of a kit containing an Aβ peptide, a Cu(II) salt, and BC anion, which is not required by the other products of Groups 21-24 and 32-33.

Group 32 recites the technical feature of a kit containing an Aβ peptide, an Fe(III) salt, and BP anion, which is not required by the other products of Groups 21-24, 31, and 33.

Group 33 recites the technical feature of a kit containing an Aβ peptide, a Cu(II) salt, TCEP, and DTNB, which is not required by the other products of Groups 21-24 and 31-32.

Group 34 recites the technical feature of identification of an agent wherein the agent inhibits redox-reactive metal-mediated crosslinking of Aβ, which is not required by the other methods of Groups 1-20, and 25-30.

3. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species of metal chelators are as follows:

a. bathocuproine

b. bathophenanthroline

c. penacillamine

d. TETA

e. TPEN

f. hydrophobic derivatives

g. DTPA

h. EDTA

i. EGTA

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The following claim(s) are generic: 13-18, 31-36, 47-52, and 58-94.

4. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species of additional compounds are as follows:

j. rifampicin

k. disulfiram

l. indomethacin

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The following claim(s) are generic: 1, 3-6, 8-11, 13-19, 21-24, 26-29, 31-37, 39-52, and 54-94.

5. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species of alkalinizing agent are as follows:

m. magnesium citrate

n. calcium citrate

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The following claim(s) are generic: 1-16, 19-34, 37-50, and 53-94.

6. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species of neurotoxicity assays are as follows:

o. an MTT assay

p. an LDH assay

q. a Live/Dead assay

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An

argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The following claim(s) are generic: 1-81 and 85-94.

7. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species of cell type are as follows:

r. rat cancer cells

s. rat primary frontal neuronal cells

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after

the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The following claim(s) are generic: 1-84 and 87-94.

If Applicant elects Group 1-3, 6-14, or 21-22, one species from metal chelator group must also be chosen to be considered fully responsive.

If Applicant elects Groups 1-3 and 6-14, one species from the additional compound group must also be chosen to be considered fully responsive.

If Applicant elects Groups 5, 18-20, and 24, one species from alkalinizng agent group must also be chosen to be fully responsive.

If Applicant elects Group 30, one species from the neurotoxicity assay group must also be chosen to be fully responsive.

If Applicant elects Group 30, one species from the cell type group must also be chosen to be fully responsive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bridget E. Bunner whose telephone number is (703) 305-7148. The examiner can normally be reached on 8:00-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz can be reached on (703) 308-4623. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Elizabeth C. Kemmerer

Bridget E. Bunner
Art Unit 1647
May 16, 2001

ELIZABETH KEMMERER
PRIMARY EXAMINER